Thulin reported similar good effects, as have Nibbelink and Jacobsen. The latter used the streptokinase clot lysis determination to monitor their patients. The drug is usually given intravenously at one or two-hour intervals to a total daily dose up to 30 grams. Close hematological consultation is advised. Cardiac and hepatic necrosis as well as massive intrarenal clotting with anuria are among the more serious complications reported. At present the use of the drug should probably be restricted to those centers where adequate control series can be studied under close hematological as well as neurological supervision.

JOSEPH P. VAN DER MEULEN, M.D.

REFERENCES

JAMA Council on Drugs. An antifibrinolytic agent (AMICAR). JAMA 191:145-146, Feb 8, 1965

Mullan S, Dawley J: Antifibrinolytic therapy for intracranial aneurysms. J Neurosurg 28:21-23, Jan 1968

Norlén G, Thulin CA: The use of antifibrinolytic substances in ruptured intracranial aneurysms. Neurochirurgia (Stuttg) 12:100-102, May 1969

Nibbelink DW, Jacobsen CD: Antifibrinolytic activity during administration of epsilon-amino caproic acid (EACA) in patients with subarachnoid hemorrhage. American Academy of Neurology. Abstract, 24th Annual Meeting. St. Louis. Apr 1972, pp 24-29

Headache and "The Pill"

THAT HORMONES INFLUENCE migraine headaches has long been known. Increased migraine headaches during or just before menstruation and freedom from migraines during pregnancy are common observations. Since the advent of oral contraceptives, it has been noted that pre-existing migraine headaches may be aggravated in some women and ameliorated in others. Changing the type of contraceptive drug may reduce or increase the headache problem. Migraine headaches may occur for the first time after initiation of oral contraceptives. In any of these situations it is difficult to distinguish to what degree the effects of "the pill" are psychological and to what degree pharmacologic in the alteration of the headache pattern.

Although universal agreement on the subject is lacking, there is probably a very slightly increased incidence of thrombotic cerebral vascular disease in women using oral contraceptives. Some authorities believe these drugs may cause an increased risk of stroke in women with a migraine tendency, but as yet there is no conclusive proof of this belief.

Our present knowledge suggests that a history of migraine headaches should not be a contraindication to oral contraceptives. Should pre-existing migraine worsen or migraine headaches appear for the first time, a trial of a different drug, perhaps with less estrogen, should be considered. In an occasional woman, the severity of the headache problem will preclude continuing use of these drugs. Oral contraceptives should be stopped immediately in any women, with or without headache, who begins to have episodes of neurologic dysfunction indicative of transient cerebral ischemia.

J. CARROLL RAMSEYER, M.D.

REFERENCES

Larsson-Cohn U, Lundberg PO: Headache and treatment with oral contraceptives. Acta Neurol Scand 46:267-278, 1970

Heyman A, Arons M, Quinn M, et al: The role of oral contraceptive agents in cerebral arterial occlusion. Neurology 19:519-524, Jun 1969

Council on Drugs, AMA: Oral contraceptives—Current status of therapy. JAMA 214:2316-2321, Dec 28, 1970

Gardner JH, van den Noort S, Horenstein S: Cerebrovascular disease in young women taking oral contraceptives. Neurology 17:297-298, Mar 1967

The Medical Treatment of Epilepsy

THE MEDICAL TREATMENT OF EPILEPSY is limited to drug therapy, elimination of medical cause, when possible and helping the patient to accept, understand his illness.

Before drug therapy can be started, the type of epilepsy should be established since choice of drug is often dependent on the type of epilepsy.

One should be alert to possible metabolic disorders in infants and young children, while brain tumors should be suspected when seizures occur for the first time after age 25.

Choice of drug depends primarily on the type of seizure. Diphenylhydantoin (Dilantin®) with or without phenobarbital or mephobarbital (Mebaral®) is the drug of choice in grand mal, psychomotor, and focal seizures. Primidone (Mysoline®) alone or with diphenylhydantoin is also effective in these seizures. Ethosuxmide (Zarontin®), paramethadione (Paradione®), and trimethadione (Tridione®) are the most effective drugs in petit mal seizures. Since the latter two

drugs are rather toxic and may exacerbate grand mal seizures, mephobarbital should also be given when they are used. Dosages of the above listed drugs depend on the age and weight of the patient and most can be taken on a two to four times daily schedule. The most common cause of drug failure in epilepsy is inadequate intake of drug, which may be due to improper prescribing by the physician or failure of the patient to take the prescribed amount of drug.

Most important in the treatment of epilepsy is a continued and careful follow-up of the patient's progress. The follow-up visit should be used to evaluate the patient for evidence of drug toxicity or signs of progressive neurologic disease. Attention should be given to the patient's emotional state and needs. Interval blood counts and urinalysis should be done. If the patient is not adequately controlled or shows drug toxicity on what the physician considered adequate dosage, serum levels for Dilantin (sodium diphenylhydantoin) and barbiturates should be obtained. These can be obtained in most laboratories. Dilantin therapeutic levels run 10 to 20 ppm, barbiturates between 10 and 15 ppm. However, lesser amounts or greater amounts should alert the physician to investigate the patient's intake of the drugs.

EDWARD E. SHEV, M.D.

REFERENCES

Booker HE, Tormey A, Toussaint J: Concurrent administration of phenobarbital and diphenylhydantoin: Lack of an interference effect. Neurology (Minneap) 21:383-385, Apr 1971

Griggs WL: Modern Treatment. New York: Harper & Row, 1971 p 258

Propranolol in Neurology

PROPRANOLOL (INDERAL®, AYERST) is a beta-adrenergic blocking drug which is frequently useful in prophylaxis against migraine and in the treatment of tremor. Its mechanism of action in these disorders is not yet understood. The drug is extremely safe when the published contraindications are borne in mind and it is coming into general use by the neurological community.

The effective dosage for migraine prevention is commonly 20 mg, four times daily, but it is likely that higher doses may be necessary.

The effective dosage for essential (or familial, or senile) tremor has often been as high as 120 to 240 mg daily. Although some patients benefit strikingly and others not at all, some of the reported failures have been in patients taking low doses. Parkinsonian tremor seems to respond less well to this drug, though it has often been beneficial even in this condition.

J. DONALD EASTON, M.D.

REFERENCES

Weber RB, Reinmuth OM: The treatment of migraine with propranolol. Neurology 22:366-369, Apr 1972

Wykes P: The treatment of angina pectoris with coexistent migraine. Practitioner 200:702-704, May 1968

Gilligan BS: Propranolol in the treatment of tremor. Med J Aust 1:320-322, Feb 12, 1972